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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/459,493	12/13/1999	MOSHE RUBIN	43426.00041	1209	
75	90 09/10/2004		EXAMINER		
Marc Sockol			COLIN, CARL G		
Squire, Sanders & Dempsey L.L.P. 600 Hansen Way			ART UNIT	PAPER NUMBER	
Palo Alto, CA 94304-1043			2136		
			DATE MAILED: 09/10/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.



Office Action Summary		Application No. Applicant(s)						
		09/459,493	RUBIN ET AL.					
		Examiner	Art Unit					
		Carl Colin	2136					
	The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply							
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status								
1)🖂	Responsive to communication(s) filed on 19 J	<u>uly 2004</u> .						
2a)□	This action is FINAL . 2b)⊠ Thi	is action is non-final.						
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. Disposition of Claims								
·	Claim(s)	- 66. 68 - 80 is/are pending in th	ne application					
4a) Of the above claim(s) is/are withdrawn from consideration.								
5) Claim(s) is/are allowed.								
6)⊠ Claim(s) <u>1, 3 - 14, 16 - 27, 29 - 36, 38 - 53, 55 - 66, 68 - 80</u> is/are rejected.								
7) Claim(s) is/are objected to.								
8) Claim(s) are subject to restriction and/or election requirement.								
Application Papers								
9) The specification is objected to by the Examiner.								
10) \boxtimes The drawing(s) filed on <u>13 December 1999</u> is/are: a) \boxtimes accepted or b) \square objected to by the Examiner.								
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
11)☐ The proposed drawing correction filed on is: a)☐ approved b)☐ disapproved by the Examiner.								
If approved, corrected drawings are required in reply to this Office action.								
12)☐ The oath or declaration is objected to by the Examiner.								
Priority under 35 U.S.C. §§ 119 and 120								
13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).								
a) ☐ All b) ☐ Some * c) ☐ None of:								
	 Certified copies of the priority documents 	s have been received.						
:	Certified copies of the priority documents	s have been received in Application	on No					
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 								
14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).								
a) ☐ The translation of the foreign language provisional application has been received. 15)☑ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.								
Attachment((s)							
2) Notice	of References Cited (PTO-892) of Draftsperson's Patent Drawing Review (PTO-948) ation Disclosure Statement(s) (PTO-1449) Paper No(s)	5) Notice of Informal F	(PTO-413) Paper No(s). Patent Application (PTO-					
S Patent and Tra								

DETAILED ACTION

Response to Arguments

- 1. In response to communications filed on 7/19/2004, applicant cancels claims 2, 15, 28, 37, 54, and 67, and has amended claims 1, 3, 14, 16, 27, 29, 36, 38, 45, 50, 53, 55, 66 and 68. The following claims 1, 3 14, 16 27, 29 36, 38 53, 55 66 and 68 80 are presented for examination.
- Applicant's arguments, pages 12-18, filed on 7/19/2004, with respect to the rejection of claims 1, 3 14, 16 27, 29 36, 38 53, 55 66, and 68 80 have been fully considered and are persuasive. Mast in combination with Balogh do not teach the claim limitation as amended of recognizing individual pixel datum as being protected or unprotected based on the least significant bits of the datum. Upon further consideration a new ground of rejection is made in view of Murphy in combination with Mast. Murphy discloses modifying least significant bits of stored pixel data prior to its being received by the video RAM, for example (see column 4, lines 11-25; column 7, lines 5-56), and further discloses recognizing individual pixel data as being protected or unprotected based on the least significant bits of the datum, for example (see column 4, lines 11-25; column 7, lines 5-56; column 20, lines 37-60; and column 21, lines 35 through column 22).

The other claim limitations disclosed by Mast in the last Office Action can still apply in the rejection of the dependent claims.

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Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3.1 Claims 1, 3 14, 16 27, 29 36, 38 53, 55 66, and 68 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,881,287 to Mast in view of US Patent 6,282,362 to Murphy et al..
- 3.2 As per claim 1, Mast substantially teaches a method for protecting digital images from being copied from a video RAM, (see column 3, lines 25-34 and column 9, lines 60-67). Mast discloses the step of transmitting stored pixel data from a computer memory to a video RAM (column 3, lines 25-57). As defined in the dictionary, the pixels are the basic units of the composition of the image disclosed by Mast. Mast also discloses the step of identifying protected image within the image in memory that meets the recitation of identifying the protected pixel data within the stored pixel data (see column 3, lines 30-49; and lines 49-57; and column 10, lines 57-61). Mast discloses in prior art (columns 1-3) many examples of modifying pixel

data prior to arrival at the video RAM. Mast further discloses the steps of modifying pixel data by encryption before transmitting to end users, prior to its being received by the video RAM, thereby generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected (see column 7, lines 34-47); and after instruction to copy pixel data from the video RAM, replacing individual pixel datum that is recognized as being protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seg., and column 10, line 53 through column 11, line 1). Mast does not explicitly teach modifying least significant bits of stored pixel data prior to its being received by the video RAM and recognizing individual pixel data as being protected or unprotected based on the least significant bits of the datum. However, Murphy et al. in an analogous art teaches modifying least significant bits of stored pixel data prior to its being received by the video RAM, for example (see column 4, lines 11-25; column 7, lines 5-56), and further discloses recognizing individual pixel datum as being protected or unprotected based on the least significant bits of the datum, for example (see column 4, lines 11-25; column 7, lines 5-56; column 20, lines 37-60; and column 21, lines 35 through column 22) with the advantage that a chosen set of pixels from the digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Mast by modifying least significant bits of stored pixel data prior to its being received by the video RAM and recognizing individual pixel datum as being protected or unprotected based on the least significant bits of the datum as taught by Murphy et al. so that a chosen set of pixels from digital image can be determined and can be retrieved from the digital image and authentication

information can be recovered by authorized person or facility (see column 7, lines 10-40). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by Murphy et al. so as to a chosen set of pixels from the digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility, for example (see column 7, lines 10-40).

As per claims 3 29, and 55, Murphy et al. discloses wherein pixel data includes red, green, and blue color components said modifying sets the least significant bits within pixel data of any color including blue color that meets the recitation of limitation of wherein pixel data includes red, green, and blue color components and wherein, said modifying sets the least significant bits within pixel data of the blue components such modification is also well known in the art the (see column 20, lines 36-67).

As per claim 4, Mast substantially discloses rendering pixel data in video RAM on a video display device, (see column 1, lines 40-47).

As per claims 5, 30, and 56, Murphy et al. discloses the limitation of rendering pixel data that is visually similar to the stored pixel data when rendered on a video display device, for example (see column 21, lines 40-67)

As per claim 6, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by a screen capture command (column 10, lines 52-66 and columns 11-12).

As per claim 7, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by command to copy screen data to a clipboard (column 10, lines 52-66 and columns 11-12).

As per claims 8, 32, and 60, Mast discloses the limitation of wherein the protected pixel data is pixel data for at least one protected digital image (see fig. 8 and column 10, line 52 through column 12).

As per claim 9, Mast substantially teaches the claimed method of claim 8. Mast discloses sending protected image to end user but does not specifically disclose downloading the at least one protected image over the Internet, which is well known in the art.

As per claims 12 and 34, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47).

As per claims 13 and 35, Mast discloses the limitation of decoding encrypted stored pixel data (see column 9, lines 8-20).

As per claim 10, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). Mast further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 11, Mast discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

As per claim 14, Mast teaches the limitations of claim 14 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 14 recites the same limitation as the rejected claim 1 except for incorporating the claimed methods into a system. A computer system has data buses to transfer data for storage, a digital filter to identify and modify pixel data, and processors to replace or copy information to memory. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claims 16, 38, and 68 are similar to the rejected claim 3 except for incorporating the claimed method into a system. Therefore, claims 16, 38, and 68 are rejected on the same rationale as the rejection of claim 3.

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As per claim 17, Mast discloses the claimed system of claim 14. Claim 17 is similar to the rejected claim 4. Therefore, claim 17 is rejected on the same rationale as the rejection of claim 4.

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Claims 18, 40, and 70 are similar to the rejected claim 5 except for incorporating the claimed method into a system. Therefore, claims 18, 40, and 70 are rejected on the same rationale as the rejection of claim 5.

As per claim 19, Mast discloses the claimed system of claim 14. Claim 19 recites the limitation of wherein said first data bus and said second data bus are distinct data busses. It is apparent to one skilled in the art that a computer system has distinct data buses to transfer data for storage (see column 4, lines 19-28).

As per claim 20, Mast discloses the claimed system of claim 14. Claim 20 recites the limitation of wherein said first data bus and said second data bus are the same data bus. The fact of using the same data bus instead of two distinct data buses may reduce cost. However, having one bus may slow down the process of transmitting data, and furthermore, it does not provide any backup if the bus fails. It is apparent to one skilled in the art that a computer system is capable of using either the same bus or distinct data buses (see column 4, lines 19-28).

Claims 21, 41, and 75 are similar to the rejected claim 8 except for incorporating the claimed method into a system. Therefore, claims 21, 41, and 75 are rejected on the same rationale as the rejection of claim 8.

Claims 22, 42, and 76 are similar to the rejected claim 9 except for incorporating the claimed method into a system. Therefore, claims 22, 42, and 76 are rejected on the same rationale as the rejection of claim 9.

As per claims 23-26, Mast discloses the claimed system of claim 14. Claims 23-26 are similar to the rejected claims 10-13 respectively. Therefore, claims 23-26 are rejected on the same rationale as the rejection of claims 10-13.

As per claim 27, claim 27 recites some of the limitations of the rejected claim 1.

Therefore, claim 27 is rejected on the same rationale as the rejection of claim 1.

Claims 31 and 57 are similar to the rejected claim 5. Therefore, claims 31 and 57 are rejected on the same rationale as the rejection of claim 5.

Claims 33 and 61 are similar to the rejected claim 9. Therefore, claims 33 and 61 are rejected on the same rationale as the rejection of claim 9.

As per claim 36, Mast substantially teaches the limitations of claim 36 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 36 recites the same limitation as the rejected claim 1 except for incorporating the claimed methods into a system. A computer system has data buses to transfer data for storage and a digital filter to identify and modify pixel data. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claims 39 and 69 are similar to the rejected claim 4 except for incorporating the claimed method into a system. Therefore, claims 39 and 69 are rejected on the same rationale as the rejection of claim 4.

Claims 43 and 79 are similar to the rejected claim 12 except for incorporating the claimed method into a system. Therefore, claims 43 and 79 are rejected on the same rationale as the rejection of claim 12.

Claims 44 and 80 are similar to the rejected claim 13 except for incorporating the claimed method into a system. Therefore, claims 44 and 80 are rejected on the same rationale as the rejection of claim 13.

As per claim 45, Mast substantially teaches a method for protecting pixel data located in a video RAM from being copied. Mast also discloses replacing protected pixel data with substitute pixel data, after instruction to copy pixel data from the video RAM (see column 3,

lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1). (See also column 2, lines 13-25). Mast discloses that encryption fails to protect pixel data within the video memory because of the need to be displayed (see column 1, lines 62-66). Mast does not explicitly teach providing pixel data with marking so that individual pixel datum is recognizable as being protected or unprotected; and recognizing individual pixel data as being protected or unprotected based on the least significant bits of the datum. However, Murphy et al. in an analogous art teaches providing pixel data within a video RAM with marking so that individual pixel datum is recognizable as being protected or unprotected, for example (see column 4, lines 11-25; column 7, lines 5-56; column 20, lines 37-60; and column 21, lines 35 through column 22), and further discloses recognizing individual pixel data as being protected or unprotected based on the least significant bits of the datum, for example (see column 4, lines 11-25; column 7, lines 5-56; column 20, lines 37-60; and column 21, lines 35 through column 22) with the advantage that a chosen set of pixels from the digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility, for example (see column 7, lines 10-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Mast by providing pixel data within a video RAM with marking so that individual pixel datum is recognizable as being protected or unprotected as taught by Murphy et al. so that a chosen set of pixels from digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by Murphy et al. so as to a chosen set of pixels from the digital

image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility, for example (see column 7, lines 10-40).

As per claim 46, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by a screen capture command (column 10, lines 52-66 and columns 11-12).

As per claim 47, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by command to copy screen data to a clipboard (column 10, lines 52-66 and columns 11-12).

As per claim 48, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). Mast further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 49, Mast discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

As per claim 50, Mast teaches the limitations of claim 50 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 50 recites the same limitation as the rejected claim 45 except for incorporating the claimed methods into a system comprising a data bus and a pixel processor. A computer system has data buses to transfer data for storage, and processors to replace individual pixel datum. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claim 51 is similar to the rejected claim 10 except for incorporating the claimed method into a system. Therefore, claim 51 is rejected on the same rationale as the rejection of claim 10.

Claim 52 is similar to the rejected claim 11 except for incorporating the claimed method into a system. Therefore, claim 51 is rejected on the same rationale as the rejection of claim 11.

As per claim 53, Mast substantially teaches a method for protecting digital images from being copied from a video RAM. Mast discloses the steps of modifying the stored pixel data so as to mark it as being protected and thereafter transmitting stored pixel data including the modified protecting pixel data from a computer memory to a video RAM (see column 7, lines 34-47 see column 3, lines 10-14; column 2, lines 13-25). (See also prior art columns 1-3).

Mast also discloses the step of identifying protected image within the image in memory that meets the recitation of identifying the protected pixel data within the stored pixel data (see column 3, lines 30-49 and column 10, lines 57-61); and in response to pixel data being copied from the video RAM, replacing individual pixel datum copied from the video RAM, that is

protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1); and discloses after instruction to copy pixel data from the video RAM, replacing individual pixel datum that is recognized as being protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seg., and column 10, line 53 through column 11, line 1). Mast does not explicitly teach modifying least significant bits of protected pixel data prior so as to mark it as being protected. However, Murphy et al. in an analogous art teaches modifying least significant bits of stored pixel data prior to its being received by the video RAM, for example (see column 4, lines 11-25; column 7, lines 5-56), and further discloses recognizing individual pixel datum that is marked as being protected, for example (see column 4, lines 11-25; column 7, lines 5-56; column 20, lines 37-60; and column 21, lines 35 through column 22) with the advantage that a chosen set of pixels from the digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Mast by modifying least significant bits of stored pixel data prior to its being received by the video RAM and recognizing individual pixel datum that is marked as being protected as taught by Murphy et al. so that a chosen set of pixels from digital image can be determined and can be retrieved from the digital image and authentication information can be recovered by authorized person or facility (see column 7, lines 10-40). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by Murphy et al. so as to a chosen set of pixels from the digital image can be determined and can

be retrieved from the digital image and authentication information can be recovered by authorized person or facility, for example (see column 7, lines 10-40).

Claims 58-59 are similar to the rejected claims 6-7 respectively. Therefore, claims 58-59 are rejected on the same rationale as the rejection of claims 6-7.

Claims 62-63 are similar to the rejected claims 10-11 respectively. Therefore, claims 62-63 are rejected on the same rationale as the rejection of claims 10-11.

As per claim 64, Mast discloses the limitation of wherein the protected pixel data is encrypted pixel data (see column 7, lines 20-47).

As per claim 65, Mast discloses the limitation of decoding encrypted stored pixel data (see column 9, lines 8-20).

As per claim 66, Mast teaches the limitations of claim 66 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 66 recites the same limitation as the rejected claim 53 except for incorporating the claimed methods into a system comprising a data bus and a pixel processor. A computer system has data buses to transfer data for storage, and processors to modify and replace pixel data. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

As per claim 71, Mast discloses the claimed system of claim 66. Claim 71 recites the limitation of wherein said first data bus and said second data bus are distinct data busses. It is apparent to one skilled in the art that a computer system has distinct data buses to transfer data for storage (see column 4, lines 19-28).

As per claim 72, Mast discloses the claimed system of claim 66. Claim 72 recites the limitation of wherein said first data bus and said second data bus are the same data bus. The fact of using the same data bus instead of two distinct data buses may reduce cost. However, having one bus may slow down the process of transmitting data and furthermore it does not provide any backup if the bus fails. It is apparent to one skilled in the art that a computer system is capable of using either the same bus or distinct data buses (see column 4, lines 19-28).

As per claim 73, Mast discloses the claimed system of claim 66. Claim 73 recites the limitation of wherein said first pixel processor and said second pixel processor are distinct processors. It is apparent to one skilled in the art that a computer system may have distinct processors for different tasks (see also column 4, lines 19-28).

As per claim 74, Mast discloses the claimed system of claim 66. Claim 74 recites the limitation of wherein said first pixel processor and said second pixel processor are the same processors. The fact of using the same processor instead of two distinct processors may reduce cost. It is apparent to one skilled in the art to have a system using a CPU as a processor to

perform all the tasks. It is apparent to one skilled in the art that a computer system is capable of using either the same processor or distinct processors (see also column 4, lines 19-28).

As per claim 77, Mast discloses the claimed system of claim 66 and further discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). Mast further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 78, Mast discloses the claimed system of claim 66 and further discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents

5,875,249

Mintzer et al.

5,764,770

Schipper et al.

These patents pertain to image authentication and copyright protection for modifying individual pixel datum and recognizing individual pixel datum as being protected.

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/Control Number: 09/439,45

4.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 703-305-0355. The

examiner can normally be reached on Monday through Thursday and every other Friday, 8:00-

6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Carl Colin

Patent Examiner

September 1, 2004

AYAZ SHEIKH

UPERVISORY PATENT EXAMINER

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